



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Billington et al.

Art Unit : 3653

Serial No. : 09/543,164

Examiner : J. Shapiro

Filed : April 5, 2000

Title : MONEY ACCEPTANCE METHOD AND APPARATUS

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

BRIEF ON APPEAL

**(1) Real Party in Interest**

The real party in interest is Mars Incorporated, the assignee of the application.

**(2) Related Appeals and Interferences**

None.

**(3) Status of Claims**

The pending claims stand rejected as follows:

\* Claims 8, 13, 20, 25 and 27-32 stand rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 5,566,807 (Morun).

\* Claims 8, 20 and 29 stand rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,085,888 (Tedesco et al.).

\* Claims 8, 20 and 29 stand rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,055,521 (Ramsey et al.).

\* Claims 8, 13, 20, 25 and 27-32 stand rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,119,099 (Walker et al.).

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\* Claims 8, 13, 20, 25 and 27-32 stand rejected under a provisional double patenting rejection in view of claims 1-15 of application serial no. 09/528,255, either alone or in combination with either the Morun patent or the Walker et al. patent.

#### **(4) Status of Amendments**

The Advisory Action dated February 10, 2004, indicates that the claim amendments submitted in the Amendment After Final Action that was filed together with the Notice of Appeal would be entered.

#### **(5) Summary of Invention**

The claimed subject matter relates to vending machines that accept payment for a vend operation and addresses various situations which may arise in connection with the ability of the vending machine to dispense change to a customer. In particular, various indications may be provided by the machine, such as on a display, depending on the state of the machine.

For example, independent claim 8 recites that the vending machine includes a display means arranged to give first and second indications that insufficient change may be available from the machine to a customer making a purchase. The first indication is given as a warning *prior* to a transaction being initiated when the amount of available change in the machine is less than the value of the highest-value among those denomination(s) that cannot be dispensed as change by the machine. The second indication is given *after* a transaction has been initiated and a monetary unit has been deposited, and depends on the money available for change and the value of the deposited monetary unit. Each indication is produced in response to the detection of a respective set of conditions.

A particular vending machine may accept some denominations for payment and store those denominations (*e.g.*, in change tubes) so that they can be dispensed as change; other denominations may be stored (*e.g.*, in a cashbox) in such a way that they are unavailable for change. If the amount of available change in the vending machine is inadequate to refund the value of the highest denomination coin that can be accepted but not refunded, it would be

appropriate for the machine to provide the first indication because a customer may otherwise insert a high-denomination coin without the possibility of being fully refunded.

Even when the first indication is not given, there is a possibility that a particular combination of conditions will result in insufficient change being available. The second indication may be given, for example, if the combination of conditions would result in the customer being underpaid by a predetermined amount.

A possible advantage of such a vending machine is that the first indication, which may deter a customer from attempting a purchase, can be given in circumstances in which it is very likely that an insufficient change problem may arise, but not in circumstances when insufficient change is possible, but less likely. Thus, the first indication may be given less frequently so that customers are deterred less often. The second indication may be used, for example, in circumstances in which change is inadequate for a particular transaction.

Independent claim 20 recites that the vending machine inhibits a selected vend if the difference between the value of deposited money and the product price exceeds a predetermined allowable overpay amount. The machine is operable in such circumstances (i) to cause a display means to provide an indication that insufficient change may be available from the machine and (ii) to allow selection of a product of a different price.

The specification explains that the phrase "allowable overpay amount" represents "the amount by which the correct change may exceed the available change without inhibiting an operation for the vending machine." (Page 4, lines 13-15; *see also* page 3, line 21-page 4, line 1)

Independent claim 25 recites that the vending machine is operable to prevent acceptance of a monetary unit and to inhibit a vend operation depending on specified factors (*i.e.*, the vend price, the credit value corresponding to accepted monetary unit(s), and the availability of monetary units for dispensing change). For example, where the amount refundable to the customer is less than the customer has inserted, acceptance of the monetary unit may be prevented and the vend operation may be inhibited so that the customer does not run the risk of losing more value than an allowable overpay amount. The vending machine has a display means

arranged to provide an indication to a customer *in response* to receipt of a monetary unit that is so prevented from being accepted.

Independent claim 29 recites that the vending machine includes means for providing a warning indication *prior* to initiating a transaction (i) *if* the available change meets a predetermined criteria *and* (ii) *if* the allowable overpay amount is non-zero. The vending machine also includes means for permitting a stored parameter that defines the allowable overpay amount to be altered. Thus, for example, different vending machine operators may set different allowable overpay amounts to suit their individual circumstances.

**(6) Issues**

The following issues are presented in this appeal:

1. Whether claims 8, 13, 20, 25 and 27-32 are properly rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 5,566,807 (Morun).
2. Whether claims 8, 20 and 29 are properly rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,085,888 (Tedesco et al.).
3. Whether claims 8, 20 and 29 are properly rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,055,521 (Ramsey et al.).
4. Whether claims 8, 13, 20, 25 and 27-32 are properly rejected as unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,119,099 (Walker et al.).
5. Whether claims 8, 13, 20, 25 and 27-32 are properly rejected under a provisional double patenting rejection in view of claims 1-15 of application serial no. 09/528,255, either alone or in combination with either the Morun patent or the Walker et al. patent.

## **(7) Grouping of Claims**

With respect to issues (1) and (4), the claims are grouped as follows:

- \* Claims 8 and 13 stand or fall together.
- \* Claim 20.
- \* Claims 25, 27 and 28 stand or fall together.
- \* Claims 29-32 stand or fall together.

With respect to issues (2) and (3), the claims are grouped as follows:

- \* Claims 8 and 13 stand or fall together.
- \* Claim 20.
- \* Claim 29.

With respect to issue (5), the claims are grouped as follows:

- \* Claims 8, 13, 20, 25 and 27-32 stand or fall together.

## **(8) Argument**

### The Law of Obviousness

A claimed invention is unpatentable due to obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person of ordinary skill in the art." 35 U.S.C. § 103(a).

Although a single prior art reference may, in appropriate circumstances, render a claim obvious, there must be showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the conclusion of obviousness. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000) (reversing conclusion of obviousness).

A single line in a reference may not be taken out of context and relied upon with the benefit of hindsight to show obviousness. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 796 F.2d 443, 448 (Fed. Cir. 1986). Similarly, boilerplate statements in a prior art reference

that other embodiments and the like can be used are generally insufficiently specific to support a finding of obviousness. *See, e.g., Fromsom v. Anitec Printing Plates, Inc.*, 132 F.3d 1437, 1447 (Fed. Cir. 1997). Moreover, the mere fact that the prior art reference could be modified does not satisfy the requirements for a finding of obviousness. *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989); *In re Mills*, 916 F.2d 680, 682 (Fed. Cir. 1990). Instead, the suggestion or motivation to modify the prior art must be "clear and particular." *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, (Fed. Cir. 1998); *Teleflex, Inc. v. Ficosa North Am. Corp.*, 299 F.3d 1313 (Fed. Cir. 2002).

As explained by the Court of Appeals for the Federal Circuit:

While the test for establishing an implicit teaching, motivation, or suggestion is what the combination of [ ] two statements of [the prior art reference] would have suggested to those of ordinary skill in the art, the two statements *cannot be viewed in the abstract*. Rather, they must be considered *in the context of the teaching of the entire reference*. Further, a rejection cannot be predicated on the mere identification in [the prior art reference] of individual components of claimed limitations. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.

*In re Kotzab*, 217 F.3d at 1371 (emphasis added).

The requirement of a clear and particular suggestion or motivation prevents the use of improper hindsight based, for example, on the applicant's own disclosure as a blueprint for forming a faulty obviousness argument. *See, e.g., In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998); *Ecolchem, Inc. v. Southern California Edison Co.*, 56 USPQ2d 1065, 1072-73 (Fed. Cir. 2000). As explained by the Court of Appeals for the Federal Circuit:

Close adherence to [the required] methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.'"

*In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999).

As discussed below, the required suggestion or motivation for modifying the cited references to obtain the claimed subject matter is lacking.

The Claims are Patentable over the Morun Patent

(1) Claim 8 recites that the vending machine is operable to accept monetary units in a plurality of denominations, and to dispense change in at least one of said denominations but not in at least one further denomination. Therefore, the vending machine is operable to dispense change only from a subset of the various denominations that the machine can accept. The statements at page 10 of the final Office action appear to be contrary to the ordinary meaning of the claim.

Claim 8 also recites that the vending machine has display means to give first and second indications "that insufficient change may be available from the machine" where each indication is produced "in response to the detection of a respective set of conditions." The Morun patent simply does not disclose or suggest those features.

The Morun patent discloses two display indications: (i) During a "force vend mode," when a customer deposits a high value, non-tubed coin and attempts to have change returned before making an item selection, the display instructs the customer to make a selection or to deposit more money to increase the credit value toward the purchase price of a vend item (col. 11, lines 3-10); and (ii) A display instructing customers to deposit lower denomination coins first to increase the probability of accepting non-tubed high value coins (col. 12, lines 16-20).

Even if the instructions described at col. 11 of the Morun patent were considered to satisfy one of the "indications" (which they do not), the display disclosed at col. 12 is not an indication that "insufficient change may be available to a customer" as recited in claim 8. Furthermore, even if it were, that display is not produced "in response to the detection of a . . . set of conditions" as recited in claim 8. Instead, as disclosed in the Morun patent, the second display would constantly appear on the front panel of the vending machine (*i.e.*, both before and after a transaction has been initiated). Therefore, there is no disclosure or suggestion of the two specific display indications as recited in claim 8.

Accordingly, claim 8, as well as dependent claim 13, is patentably distinguishable from the Morun patent.

(ii) Claim 20 recites, in part, a vending machine that is operable "to inhibit the vend" under specified circumstances and that the machine is operable "in these circumstances" to cause the display means to provide an indication "that insufficient change may be available from the machine."

Applicant acknowledges that FIG. 9 of the Morun patent indicates that a vend may be blocked. Specifically, if, based on the credit value and the vend price, change is unavailable, then the vend is blocked. However, there is absolutely no suggestion that, "in these circumstances" (*i.e.*, when the difference between the value of deposited money and the product price exceeds a predetermined allowable overpay amount such that the vend is inhibited), the display provides an indication "that insufficient change is available."

Although the "force vend" mode described at col. 11, lines 3-10 of the Morun patent provides instructions to the customer via a display, it is clear that those instructions are not provided under the circumstance of a vend being inhibited. To the contrary, those instructions are provided under completely different circumstances before the customer even selects an item to be vended:

A "force vend" mode of a vending machine is utilized in situations where a customer deposits a high-value, non-tubed coin and attempts to have change returned before making an item selection. . . .

(Col. 11, lines 3-6) (underscoring added) Therefore, the "force vend" mode disclosed in the Morun patent is completely irrelevant to claim 20, which recites that the vending machine is operable to "compare the difference . . ." and to "inhibit the vend" "*in response to selection of a product for vending*."

It is, therefore, clear that the Morun patent neither discloses nor suggests the subject matter of claim 20



(iii) Claim 25 recites, in part, a vending machine operable to “prevent acceptance of a monetary unit” and having display means to provide an indication to a customer “in response to receipt of a monetary unit which is so prevented from being accepted.”

The Morun patent discloses that if change cannot be made for possible selection at an item price, then acceptance of that non-tubed coin is disabled (*see e.g.*, col. 11, lines 45-47). Although that patent discloses preventing acceptance of a monetary unit under certain conditions, there is simply no disclosure or suggestion that anything is displayed to the customer “in response” to receipt of money which is prevented from being accepted. Therefore, claim 25, as well as dependent claims 27 and 28, is patentably distinguishable from the Morun patent.

(iv) Claim 29 recites, in part, a vending machine that includes means for providing a warning indication “prior to initiating a transaction if the available change meets a predetermined criteria and if the allowable overpay amount is non-zero.” Thus, the warning indication is provided before initiating a transaction and is subject to the the specified conditions.

As discussed above, the Morun patent discloses two display indications. Neither of those satisfies the limitations of claim 29. As explained in the Morun patent, a customer “may initiate a transaction by depositing coins or bills of particular denominations in the slots 50 or 60, respectively.” (Col. 3, lines 45-47) However, the instructions provided on the display during the “force vend” mode (col. 11, lines 3-10) occur only after a transaction is initiated (*i.e.*, after a customer deposits a high-value, non-tubed coin and attempts to have change returned), not prior to initiating a transaction as recited in claim 29.

Furthermore, the instructions on the display mentioned at col. 12, lines 16-20, of the Morun patent are not subject to any conditions; therefore, there is no display that is prior to initiating a transaction and that satisfies the claim language “means for providing a warning indication . . . if . . . and if . . .”

Claim 29 also recites “means for permitting alteration of a stored parameter defining the allowable overpay amount.” The final Office action refers to elements 420 and 430 in FIG. 5 as corresponding to the claimed feature. That is incorrect. First, the elements 420 and 430 are memories for storing coin and bill acceptance criteria, respectively. (Col. 7, lines 11-24) Those

memories do not store parameters defining an allowable overpay amount. More importantly, the Morun patent teaches away from *altering* the allowable overpay amount. As explained by the Morun patent:

FIG. 7 is a flowchart 800 illustrating the calculation of an overpay amount for a vending machine 1 . . . This routine is run bu the coin mechanism processor 230 or the vending machine controller 400 *only once* to fit the configuration of coin tubes and acceptable non-tubed coins for a particular vending machine.

(Col. 9, lines 36-43) (emphasis added) Since the routine for calculating the allowed overpay amount is executed only once, clearly there is no suggestion of altering that value.

Therefore, it is clear that there is simply no suggestion of the subject matter of claim 29 or dependent claims 30-32.

#### The Claims are Patentable over the Tedesco Patent

(i) Claim 8 recites a vending machine having a display means to give first and second indications “that insufficient change may be available from the machine.”

The Tedesco patent discloses a display 124 for displaying a message indicating that an entered subscription identifier is invalid (col. 7, lines 57-58; step 814) and for displaying a message indicating that a received *payment* is insufficient (col. 7, lines 63-66). Neither of those messages are indications that “insufficient *change* may be available from the machine . . .” as recited in claim 8. Therefore, claim 8, as well as dependent claim 13, is patentbaly distinguishable from the Tedesco patent.

(ii) Claim 20 recites, in part, a vending machine having a display means to provide an indication that “insufficient change is available from the machine.” As already discused above, the display disclosed in the Tedesco patent does not provide such an indication and there is no suggestion that it should do so.

Furthermore, as noted above, the specification explains that the phrase “allowable overpay amount” represents “the amount by which the correct change may exceed the available

change without inhibiting an operation for the vending machine.” (Page 4, lines 13-15; *see also* page 3, line 21-page 4, line 1) The definition advanced in the final Office action (*e.g.*, at page 5, par. 5.2) for that phrase is inconsistent with the definition in the specification and is inconsistent with the use of the similar term (“allowed overpay amount”) in the Morun patent (*see, e.g.*, Morun patent, FIG. 7, step 800, and col. 9, lines 36-67). Indeed, there is no mention of an allowable overpay amount in the Tedesco patent.

At least for those reasons, claims 20 is patentably distinguishable from the Tedesco patent.

(iii) Claim 29 recites, in part, a means for providing a warning indication “prior to initiating a transaction . . .”

In contrast, according to the Tedesco patent, the messages appear on the display only after the transaction is initiated. In other words, the information displayed in blocks 814 and 822 (FIG. 8A) is part of the subscription request validation process 716 which occurs after payment has been received in step 712.

Claim 29 also recites “means for permitting alteration of a stored parameter defining the allowable overpay amount.” The final Office action refers (at page 5, par. 5.3) to the processor 144 in FIG. 1b of the Tedesco patent as corresponding to the claimed “means for permitting alteration” because it “necessarily allows input and storage of item prices.” That is incorrect and irrelevant. As already noted above, the Tedesco patent fails to disclose or suggest an allowable overpay amount. Therefore, the fact that the Tedesco patent discloses a processing module 144 and an input device 110 is irrelevant. There is simply no suggestion of the claimed function of permitting alteration of a stored parameter defining the allowable overpay amount.

Therefore, at least for those reasons, there is no disclosure or suggestion of the subject matter of claim 29 in the Tedesco patent.

The Claims are Patentable over the Ramsey Patent

(i) Claim 8 recites a vending machine having a display means to give first and second indications “that insufficient change may be available from the machine.”

The Ramsey patent discloses a fuel dispenser 35 which displays sales indicia such as fuel price and fuel quantity units (col. 6, lines 1-5). A video display 57 can provide “additional fueling instructions or other important information about products for sale, or locations of interest to the purchaser.” (Col. 6, lines 32-36) That patent also discloses the ability to calculate and dispense change to the purchaser (*see, e.g.*, col. 13, lines 40-41). However, there is no disclosure or suggestion of a display that provides an indication regarding the availability of insufficient change from the machine as recited in claim 8. Therefore, at least for that reason, claim 8, as well as dependent claim 13, is patentably distinguishable from the Ramsey patent.

(ii) Claim 20 recites, in part, a vending machine having a display means to provide an indication that “insufficient change is available from the machine.” As already discussed above, the display disclosed in the Ramsey patent does not provide such an indication and there is no suggestion that it should do so.

Furthermore, as noted above, the specification explains that the phrase “allowable overpay amount” represents “the amount by which the correct change may exceed the available change without inhibiting an operation for the vending machine.” (Page 4, lines 13-15; *see also* page 3, line 21-page 4, line 1) The definition advanced in the final Office action (*e.g.*, at page 6, par. 6.2) for that phrase is inconsistent with the definition in the specification and is inconsistent with the use of the similar term (“allowed overpay amount”) in the Morun patent (*see, e.g.*, Morun patent, FIG. 7, step 800, and col. 9, lines 36-67). Indeed, there is no mention of an allowable overpay amount in the Ramsey et al. patent.

At least for those reasons, claims 20 is patentably distinguishable from the Ramsey patent.

(iii) Claim 29 recites, in part, a means for providing a “warning indication.”

As noted above, the Ramsey patent discloses a fuel dispenser 35 which displays sales indicia and a video display 57 which provides fueling instructions and information about products for sale and locations of interest. None of the displayed information is a "warning indication," and there is no suggestion in the Ramsey patent of displaying such an indication. Nor is there any suggestion of providing a warning indication according to the specified conditions of claim 29.

Claim 29 also recites "means for permitting alteration of a stored parameter defining the allowable overpay amount." The final Office action refers (at page 7, par. 6.3) to the server PC workstation 27 in the Ramsey et al. patent as corresponding to the claimed "means for permitting alteration" because it "necessarily allows input and storage of item prices." That is incorrect and irrelevant. As already noted above, the Ramsey et al. patent fails to disclose or suggest an allowable overpay amount. Therefore, the fact that the Ramsey et al. patent discloses a server PC workstation is irrelevant. There is simply no suggestion of the claimed function of permitting alteration of a stored parameter defining the allowable overpay amount.

At least for those reasons, claim 29 is patentably distinguishable from the Ramsey patent.

#### The Claims are Patentable over the Walker Patent

(i) Claim 8 recites, in part, a vending machine having display means to give first and second indications "that insufficient change may be available from the machine." The Walker patent simply does not disclose or suggest those features.

The Walker patent disclose displaying text or graphics that explain to the customer or cashier that an upsell item (*i.e.*, a selected product at a higher price) may be purchased in exchange for a specified amount of change due to the customer. As explained by the Walker patent, the display is intended to reduce the time a cashier spends processing a purchase by reducing the amount of change due to customers. The display also is intended to increase the amount of sales. (Col. 1, line 34 – col. 2, line 2) Such a display, however, is not an indication that "insufficient change may be available from the machine" as recited in claim 8. Therefore, claim 8, as well as dependent claim 13, is patentably distinguishable from the Walker patent.

(ii) Claim 20 recites, in part, a vending machine operable “to inhibit the vend” under certain circumstances and operable “in these circumstances” to cause a display means to provide an indication that “insufficient change may be available from the machine.”

Contrary to the statement in the Office action at page 7, par. 2, there is no disclosure in the Walker patent of inhibiting a vend. The Office action points to col. 6, lines 31-44 as suggesting inhibiting a requested vend. That is incorrect. That section of the Walker patent relates to determining an upsell item and providing a text or graphics on the display to identify the upsell item to the customer or cashier. Nothing in that section or elsewhere in the Walker patent discloses or suggests inhibiting a vend as recited in claim 20.

Nor, as discussed above in connection with claim 8, is there any suggestion in the Walker patent of providing an indication on a display that “insufficient change is available from the machine.” Therefore, there is no suggestion that the machine is operable “in these circumstances” (*i.e.*, when the difference between the value of deposited money and the product price exceeds a predetermined allowable overpay amount such that the vend is inhibited) “to cause the display means to provide an “insufficient change” indication that insufficient change is available from the machine.”

In summary, the subject matter of claim 20 is neither disclosed nor suggested by the Walker patent.

(iii) Claim 25 recites, in part, a vending machine operable to “prevent acceptance of a monetary unit in dependence on the availability of monetary units for dispensing as change” and having display means to provide an indication to a customer “in response to receipt of a monetary unit which is so prevented from being accepted.”

There is simply no disclosure or suggestion in the Walker patent that the machine is operable to “prevent acceptance of a monetary unit” as recited in claim 25. Therefore, there also is no suggestion of displaying anything “in response” to receipt of a monetary unit that is so prevented from being accepted. The final Office action does not even attempt to point to any disclosure or suggestion of those features in the Walker patent. Therefore, claim 25, as well as dependent claims 27 and 28, is patentably distinguishable from the Walker patent.

(iv) Claim 29 recites, in part, a means for providing a “warning indication prior to initiating a transaction . . .”

As disclosed in the Walker patent, the displayed text or graphics informing the customer that an upsell item may be purchased in exchange for a specified amount of change is not a “warning” indication and, in any event, is not provided “prior to initiating a transaction.” The text or graphics display is provided only after the customer has made payment for the intended purchase (*i.e.*, after initiating a transaction).

Therefore, claim 29, as well as dependent claims 30-32, is patentably distinguishable from the Walker patent.

#### The Provisional Double Patenting Rejection is Improper

The claims were rejected under a provisional double patenting rejection in view of claims 1-15 of U.S. application 09/528,255 alone or in combination with either the Morun patent or the Walker patent.

The provisional double patenting rejection is improper for the reasons previously set forth by applicant in reply to an earlier Office action.

Furthermore, U.S. application 09/528,255 has lapsed by applicant's non-response to the final Office action mailed on August 29, 2003. Therefore, that application is no longer pending, and the provisional double patenting rejection is improper.

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Attorney's Docket No.: 07703-332001

Conclusion

Applicant respectfully requests reversal of the claim rejections.

The brief fee of \$330 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 3/3/04



Samuel Borodach  
Reg. No. 38,388

Fish & Richardson P.C.  
45 Rockefeller Plaza, Suite 2800  
New York, New York 10111  
Telephone: (212) 765-5070  
Facsimile: (212) 258-2291



### **Appendix of Claims**

8. A vending machine, which is operable to accept monetary units in a plurality of denominations, and to dispense change in at least one of said denominations but not in at least one further denomination, the vending machine having display means arranged to give first and second indications that insufficient change may be available from the machine to a customer making a purchase, the first indication being given as a warning prior to a transaction being initiated when the amount of available change in the machine is less than the value of the highest-value among said at least one further denomination, and the second indication being given after a transaction has been initiated and a monetary unit has been deposited, the second indication being given in dependence on parameters including the money available for change and the value of the deposited monetary unit, each indication being produced in response to the detection of a respective set of conditions.

13. A vending machine as claimed in claim 8, wherein the circumstances giving rise to the second indication also cause the deposited monetary unit to be refunded.

20. A vending machine which has a display means and which is operable, in response to selection of a product for vending, to compare the difference between the value of deposited money and the product price with the available change, and to inhibit the vend if that difference exceeds a predetermined allowable overpay amount, the machine being operable in these circumstances also to cause the display means to provide an indication that insufficient change may be available from the machine and to allow selection of a product of different price.

25. A vending machine which is operable to prevent acceptance of a monetary unit in dependence on the availability of monetary units for dispensing as change and operable to inhibit a vend operation in dependence on a vend price, a credit value corresponding to the value of one or more accepted monetary units and the availability of monetary units for dispensing as change, said vending machine having display means arranged to provide an indication to a customer in response to receipt of a monetary unit which is so prevented from being accepted.

27. A vending machine as claimed in claim 25, wherein the display means is arranged to provide an indication to a customer when a vend operation is inhibited.

28. A vending machine as claimed in claim 25, wherein the machine is arranged, when a vend has been inhibited, to allow a customer to select a vend at a different price.

29. A vending machine comprising:

means for accepting payments in units of different denominations, for performing vends, for determining that insufficient change is available, and for dispensing change, wherein if insufficient change is available then either (i) a lesser amount of change is dispensed or (ii) a requested vend is inhibited depending on whether the difference between the available change and the correct change is equal to or less than a predetermined allowable overpay amount;

means for providing a warning indication prior to initiating a transaction if the available change meets a predetermined criteria and if the allowable overpay amount is non-zero; and

means for permitting alteration of a stored parameter defining the allowable overpay amount.

30. A vending machine as claimed in claim 29, wherein the predetermined criterion is met when the available change is less than the value of the lowest denomination non-refundable payment unit.

31. A vending machine as claimed in claim 29, which is operable to provide an "exact change" indication to a customer when a requested vend is inhibited.

32. A vending machine as claimed in claim 31, wherein the machine is operable, when inhibiting a vend, to permit the customer to request a vend at a different price.